

What is claimed is:

1. A multi-layer fraud detection system for a telecommunications system, the telecommunication system comprising a network layer having at least one telecommunications network, a service control layer for managing the network layer and for generating service records including data representing instances of telecommunications in the network layer, and a data management layer for receiving the service records from various components and processes of the service control layer and for reducing data by eliminating redundancy and consolidating multiple records into network event records, the multi-layer fraud detection system comprising:

a detection layer to receive network event records from the data management layer to test the network event records for possible fraud and to generate alarms indicating incidences of suspected fraud;

an analysis layer to receive alarms generated by the detection layer and to consolidate the alarms into fraud cases; and

an expert system layer to receive fraud cases from the analysis layer and to act upon certain of the fraud cases, the expert system layer comprises a core infrastructure and a configurable, domain-specific implementation.